

# 亚洲西部和欧洲东南部芍药属的一个亚种

洪德元

(中国科学院植物研究所系统与进化植物学开放研究实验室 北京 100093)

## A subspecies of *Paeonia mascula* (Paeoniaceae)

### from W. Asia and SE. Europe

HONG De-Yuan

(Laboratory of Systematic and Evolutionary Botany, Institute of Botany, the Chinese Academy of Sciences, Beijing 100093, China)

**Abstract** The plant from eastern Aegean islands, S. Turkey, Cyprus, Lebanon, Syria and N. Iraq is recognized as a subspecies of *Paeonia mascula* based on a large quantity of herbarium specimens from the major herbaria in Europe. The subspecies, *Paeonia mascula* subsp. *orientalis* (Thiebaut) D. Y. Hong, is characterized by nearly always having some leaflets segmented and the total number of leaflets and segments ranging from (9) 12 to 18 (23); leaflets and segments broadly elliptical to ovate-rounded and usually glabrous or sparsely villous on the lower surface.

**Key words** Paeoniaceae; *Paeonia mascula* subsp. *orientalis*; W. Asia; SE. Europe

*Paeonia mascula* (L.) Mill. was first described by Linnaeus as a variety, *P. officinalis*  $\beta$  *mascula* from Switzerland. The circumscription of *P. mascula* has been greatly controversial and changed frequently. Cosson (1887) adopted a very broad concept of *P. mascula* (= *P. corallina*), including *P. broteri*, *P. cambessedesii*, *P. coriacea*, *P. russi* and *P. coriacea* var. *atlantica*. Stern (1948) treated *P. corallina* as a synonym of *P. mascula* and gave the latter a narrow sense, recognizing the Arietina group (including *P. arietina* and *P. bakeri*), the Broteri group, the Coriacea group (*P. coriacea* and *P. coriacea* var. *atlantica*) and the Russi group (*P. russi* and *P. cambessedesii*) as the allied groups of the Mascula group (*P. mascula*, *P. daurica*, *P. banatica* and *P. kesrouanensis*). Cullen and Heywood (1964a, 1964b), while revising the taxonomy of the genus *Paeonia* in Europe, treated *P. russi* Bivona and *P. arietina* Anders as subspecies of *P. mascula*. This classification of three subspecies was accepted by Davis and Cullen (1965). Tzanoudakis (1983, 1977) also adopted this concept and described two new subspecies from the Aegean region, *P. mascula* subsp. *hellenica* and subsp. *icarica*. Gneuter and Burdet (1980) treated the plant from Algeria as *P. mascula* subsp. *atlantica*. Stearn and Davis (1984) recognized four subspecies in *P. mascula* complex, subsp. *mascula*, *russi*, *hellenica* (including two varieties: var. *hellenica* and *icarica*) and *triternata*. As a result of taxonomic revision of the *P. mascula* group in the Caucasus based on extensive expedition to this area and examination of a large number of herbarium specimens, five subspecies were recognized by the present author and his coworker (Hong and Zhou, unpublished): *P. mascula* subsp. *caucasica*, *mlkosewitschii*, *wittmanniana*, *macrophylla* and *tomentosa*. Thus, recognized in *P. mascula* have been 11 subspecies: *atlantica* (Algeria), *arietina* (E. Europe & N. Turkey), *caucasica* (the Caucasus), *hellenica* (the Aegean region and Sicily), *macrophylla* (SW. Georgia), *mascula* (widespread), *mlkosewitschii* (E. Georgia and adjacent regions of Azerbaidjan and Russia), *russi* (Corsica, Sardin-

ia, Sicily and W. Aegean islands), *tomentosa* (S. Azerbaidjan), *triternata* (Crimea) and *wittmanniana* (NW. Caucasus). According to Cullen and Heywood (1964 a & b), the subspecies *mascula* is widely distributed from France and Italy to W. Russia via Germany, Yugoslavia and Hungary and thus it overlaps subsp. *russi* in Sicily, Italy and Greece, and subsp. *arietina* in Italy, Greece, Yugoslavia and W. Russia. Davis and Cullen (1965) assigned the plant from S. Europe, S. Turkey, Cyprus, N. Iraq, N. Iran and Caucasus into *P. mascula* subsp. *mascula*, while those from N. Turkey, Italy and Balkan Peninsula into subsp. *arietina*. The plant from Lebanon and Syria was placed into *P. mascula* subsp. *mascula* by Mouterde (1970); that from Cyprus was also placed into this subspecies by Meikle (1977). This treatment is accepted by Stearn and Davis (1984).

Based on the examination of a large quantity of herbarium specimens I found that the plant from E. Aegean region, S. Turkey, Cyprus, Lebanon, Syria, and N. Iraq is different from those in S. Europe (France, Switzerland, Italy, Germany and so forth), N. Turkey and the Caucasus (see below), and forms a rather distinct group, which may be better recognized as another subspecies of its own.

***Paeonia mascula* (L.) Miller subsp. *orientalis* (Thiebaut) D. Y. Hong, stat. & comb. nov.**

*Paeonia corallina* Retz var. *orientalis* Thiebaut in Bull. Soc. Bot. France, 81: 114, 1934 et Fl. Lib. -Syr. 1:37. 1936; *P. arietina* var. *orientalis* (Thiebaut) F. C. Stern in J. Roy. Hort. Soc. 68: 127. 1943 et Stud. Gen. *Paeonia*, 83. 1946. TYPE: Syria, Mt. Amanus, 1906-04. M. Haradjian 537 (lectotype, here designated: G!)

*Paeonia kurdistanica* Zohary in Pal. J. Bot. Jer. Ser. 2:155. 1944. TYPE: not designated.

*Paeonia mascula* (L.) Miller subsp. *samosica* D. Y. Hong, ined. (sched.)

*P. kavachensis* Aznavour in Magyar Bot. Lapok, 16:7, 1917. TYPE: Turkey, Kavache, Vastan, Szovitz, s. n. (holotype, K).

*P. mascula* sensu Stern, Stud. Gen. *Paeonia*, 67. 1946, non Miller (1768), p. p., quoad specim. Cyprus.; Meike, Flora of Cyprus, 68~69. 1977.

*P. mascula* subsp. *mascula* sensu Cullen et Heywood, in Fedde Repert, 69: 35. 1964, p. p. quoad specim. Greek; Stearn and Davis, Peonies of Greece, 75. 1984. p. p., quoad specim. Asia Minor., N. Iraq. et Iran.

This subspecies has been confused with the subspecies *mascula* (Stearn and Davis, 1984; Meikle, 1977; Mouterde, 1970; Davis and Cullen, 1965; Cullen and Heywood, 1964 a & b), but it differs from the latter in its great majority of individuals having some leaflets segmented and thus the total number of leaflets and segments ranging from (9) 12 to 18 (23) instead of 9 to 12, rarely over 12 in the latter, and in having leaflets and segments broad-elliptical to ovate-rounded and usually glabrous, less frequently sparsely villose on the lower surface (Fig. 1). The indumentum of leaflets and segments can be used for distinguishing this subspecies from *P. mascula* subsp. *arietina* (Anders) Cullen et Heywood, which is usually rather densely villose on stems, petioles and the lower surface of leaves. The subspecies *arietina* is found in N. Turkey and SE. Europe and is geographically vicarious with the subspecies under study.

The subspecies is widely distributed in the eastern Aegean region, S. Turkey, Cyprus, Lebanon, Syria, N. Iraq and N. Iran(?). It grows in deciduous broad-leaved forests, mixed broad-leaved and needle-leaved forests, conifer forests and bushes at altitudes from 200 m to 2000 m.

#### Additional specimens examined:

**Cyprus:** Mts. Troodos, 1974-06-13, M. Malicky, s.n. (G, W); eodem loc., 1880-06-21, Sintenis & Rigo 352 (LD) and 854 (G); Mts. Troodos, in Mt. Khionistra inter Pano Platres et

Prodhromos, 1000 ~ 1950 m., substr. serpentine, 1986-05-07, K. H. Rechinger 61996 (G, W); Mt. Troodos, Platania, 1939-06-18, H. Lindberg, s. n. (LD); Mt. Papoutsas, NW slope, above Pale Khor-Agros pass, 1400 m, 1979-04-21, J. R. Edmondson & M. A. S. McClintock E2884 (E); Lagoudhera, 1972-04-10, H. J. Leep 746 (TUB); Limassol, 2 km E of Prodhromos, 1972-05-16, F. Spitzenberger 165(W).

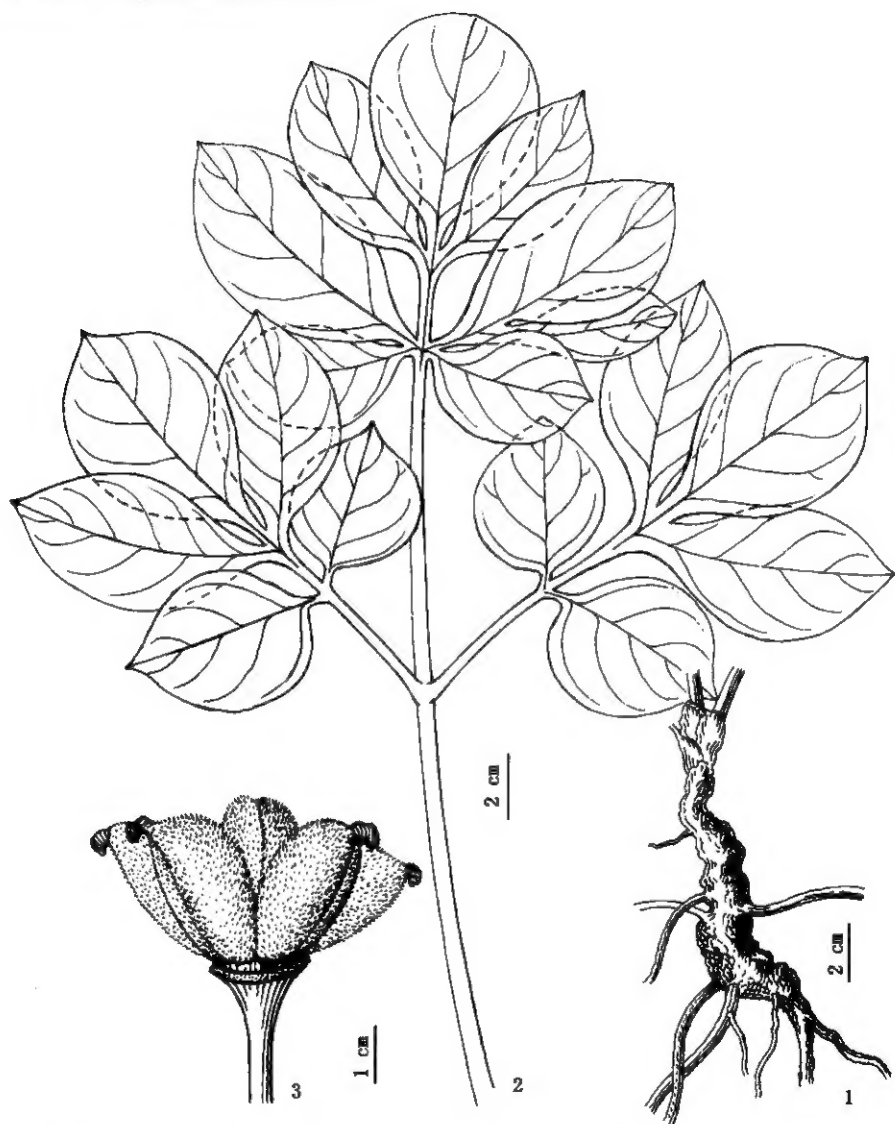


Fig. 1 *Paeonia mascula* subsp. *orientalis* (Thiebaut) D. Y. Hong, based on E. Stamatiadou 22715(ATH)

1. Roots and lower part of stems; 2. The best developed leaf, usually the first or second one from below;

3. Young follicles. (张泰利 绘, drawn by Ms. Zhang Tai-Li)

**Greece:** Samos, Mt. Kerketefs, S-SE slope of Vigla summit, in shrubby places, 1150 ~ 1200 m, 1983-05-01, E. Stamatiadou 22715 (ATH); Samos, Mt. Ambelos, N slope of Zovrahia summit, 800 ~ 1000 m, in *Pinus* + *Abies* forest, 1968-05-04, E. Stamatiadou 2736 (E, ATH); Samos, Mt. Ambelos, SW of Moni Kourna, on N-NE slopes of Lazaros summit, 700 ~ 850 m, in pine forests, 1970-04-29, E. Stamatiadou 8307 (ATH); Mt. Ambelos, c. 700 ~ 1000 m, 1934-

04-10, K. H. & F. Rechinger 3889 (LD); Samos, near Kakoperato, Mt. Kerkig, c. 900 m, P. H. Davis 1639 (E); Samos, Mt. Kierki, 1887-05-05, F. Major 400 (G); Lesvos, Mitilini, Ajiassos, *Fagus* forest, 1973-04-14, P. Broussalis, s. n. (ATH); eodem loc., 600 m, in *Castanea sativa* forest, 1969-05-17, E. Stamatiadou 6309 (ATH); Lesvos, SW of Ajiassos, on E-NE slopes of Mt. Olymbos, 750 m in pine wood, 1969-05-18, E. Stamatiadou 6334 (ATH); Isl. Chios, Mt. Pelineon, above Vikion, 750 ~ 950 m, 1991-06-22, Sven & Britt Snogerup 8531 (LD).

**Iraq:** Sersang (Sersorg?), 960 m, 1957-05-14, R. Wheeler Haines 959 (E); s. loc., R. Wheeler Haines 14(E).

**Lebanon:** Feitroun, 1882-05-11, E. Peyron, s. n. (G); eodem loc., 1962-05-03, s. coll. 12605(G); eodem loc., E. Peyron, s. n. (G).

**Syria:** N. Syria, 1881-03, Kessab, s. n. (G); N. Syria, Kurd dagh, 1000 ~ 1200 m, 1907-05, M. Haradjian 1103 (G); Am Aramie, 1935-07-08, P. Mouterde 4343(G); Slenfi, 1600 m, in forest of *Cedrus*, 1952-09-13, H. Pabot, s. n. (G); Slenfi, Mt. Maltai, 1955-07-25, H. Pabot, s. n. (G); eodem loc., in forest, 1956-07-14, H. Pabot, s. n. (G).

**Turkey:** Hatay, Amanus doplan, Kostelli-Kouph Or. mont, 1967-04-14, Y. Ahman 138 (E); Mt. Amanus, 1906, M. Haradjian 238 (G); Hatay, Belen, Karlik tepe, 1200 m, Above Suguk Oluk *Abies cilicica* forest, 1957-04-24, Davis & Hedge D27104 (E); Hakkari, below Oramar, 1300 m, in shade of *Platanus orientalis* and *Castanea sativa*, 1978-05-17, J. Trelawny & J. McPhail 2031 (E); Hakkari, Mosul (Kurdistan), ad confines Turciae, inter Dohuk et Amadiya, 1200 m, 1957-07-12, K. H. Rechinger 11678 (E); Hakkari, 9 ~ 10 km from Semdinli to Yuksekova, 1700 ~ 1800 m, in oak woods, 1966-06-16, P. H. Davis 45045 (E); Bitlis, southern slopes of Kambos Dag above Tutu, 2000 m, under scrub oak near tree line, 1956-08-17, McNeil 621 (E); Simvav, Vilovel siirl, 1972-05-09, H. J. Leep L7228 (SA); Antalya, Kemer (Lucia) Teke dagh 1100 ~ 1200 m, in *Quercus coccifera* and *Q. libani* scrub, 1949-07-12, P. H. Davis 15199 (E); Adana, Haruniye, E. NW of Kurtlar, 1250 m, Fagetum, 1952-05-02, H. Demiriz 929 (E); Izmir, north side of Samsun Dag, above Guzelcamli, 200 ~ 400 m, mixed forest, P. H. Davis 41775 (E); Cilicien, Thal Agatsch Kissa, 1896-06, W. Siehe (G).

**Acknowledgements:** The author is greatly indebted to Prof. Dr. W. Sauer at Tübingen University, Germany, for his borrowing numerous specimens to the university from the major herbaria in Europe. His sincere thanks are due to curators of the herbaria at Goulandris Natural History Museum, Greece (ATH), Royal Botanic Garden, Edinburgh, UK (E), Conservatoire et Jardin botaniques, de la Ville de Genève, Switzerland (G), Botanical Museum, Lund, Sweden (LD) and Dept of Botany, Naturhistorisches Museum Wien, Austria (W) for their lending the material for the study.

## References

- Aznavour, 1917. Magyar Bot. Lapok, 16:7 ~ 8  
 Cosson E, 1887. *Paeonia*. In: Compendium Florae Atlanticae. Paris. 2:52 ~ 55.  
 Cullen J, Heywood V H, 1964a. Notes on the European Species of *Paeonia*. Fedde Repert, 69:32 ~ 35  
 Cullen J, Heywood V H, 1964b. *Paeoniaceae*. In: Heywood V H (ed.): Flora Europaea. Cambridge: Cambridge University Press. 1:243 ~ 244  
 Davis P H, Cullen J, 1965. *Paeonia*. In: Davis P H (ed.): Flora of Turkey. Edinburgh: University Press. 1:204 ~ 206  
 Meikle R D, 1977. *Paeonia*. in Flora of Cyprus, London: Bentham-moxon Trust. Roy Bot Gard Kew. 1:68 ~ 69  
 Mouterde P, 1970. Nouvelle Flore du Liban et de la Syrie. Beirut: Dar El-Machreq Editeurs. 2:4  
 Stearn W T, Davis P H, 1984. *Peonies of Greece*. Kifissia-Greece: The Goulandris Natural History Museum.

- Thiebaut J, 1934. Notes sur quelques plantes de la flore Libano-syrienne. Bull Soc Bot France, 81: 113 ~ 121  
 Thiebaut J, 1936. Flore Libano-Syrienne. Le Caire. 1: 37  
 Tzanoudakis D B, 1983. Karyotypes of four wild *Paeonia* species in Greece. Nord J Bot, 3(3): 307 ~ 318  
 Tzanoudakis D B, 1977. Cytotaxonomic Study of the Genus *Paeonia* L. in Greece. Doctorate Thesis. Patras: Bot Inst, University of Patras. 132

**摘要** 根据存于欧洲一些大标本馆的大量标本的观察, 分布于希腊爱琴海东部、土耳其南部、塞浦路斯、黎巴嫩、叙利亚、伊拉克北部的 *Paeonia mascula* 与欧洲中部至巴尔干半岛的均不相同, 可确认为一个独立的亚种。绝大多数个体总有一些小叶全裂, 因此小叶及裂片数为 (9) 12 ~ 18 (23); 小叶宽椭圆形至卵圆形, 通常两面无毛或背面疏生柔毛。

**关键词** 芍药科; *Paeonia mascula* subsp. *orientalis*; 欧洲东南部; 亚洲西部

(责任编辑 徐 黎)

## 麻黄属一新变种——两性木贼麻黄

### A new variety of *Ephedra*——*E. equisetina* var. *monoica* Y. Yang

**Key words** *Ephedra*; *E. equisetina* var. *monoica* Y. Yang

**关键词** 麻黄属; 两性木贼麻黄

#### 两性木贼麻黄 新变种

*Ephedra equisetina* Bunge var. *monoica* Y. Yang, var. nov.

A var. *equisetina* differt planta monoica, ramulis gracilioribus 0.8 ~ 1 mm diametro, foliis vestustate deciduis non brunneis squamiformibus, spicis masculis minoribus sessilibus oppositis, bracteis 2-jugatis subliberis, spicis femineis sessilibus solitariis non oppositis ad nodos insertis, semine uno incluso ventre plano dorso convexo carinato non utrinque convexo.

**China. Hebei (河北):** Wuan, on slopes, alt. 1400 m, 1973-05-18, K. C. Kuan *et al.* (关克俭等) 70 (holotype, PE). Wuan (武安), Wuan Exped. (武安队) 201 (PE); Zanzhuang (赞皇), Shijiazhuang Exped. (石家庄队) 526 (PE); without precise locality, P. Licent 8098 (PE).

该变种与模式变种的主要不同在于: 雌雄同株; 枝较细, 直径 0.8 ~ 1 mm; 叶老时脱落, 不呈褐色鳞片状; 雄球花无梗, 于节上对生; 苞片两对, 近分生; 雌球花无梗, 单生, 非对生; 种子内藏, 腹面扁平, 背部凸起、具脊, 非两侧凸起。

**致谢** 感谢傅立国先生、王文采先生的指导和审改。

杨 永 (中国科学院植物研究所 北京 100093)

YANG Yong (Institute of Botany, the Chinese Academy of Sciences, Beijing 100093)

(责任编辑 徐 黎)